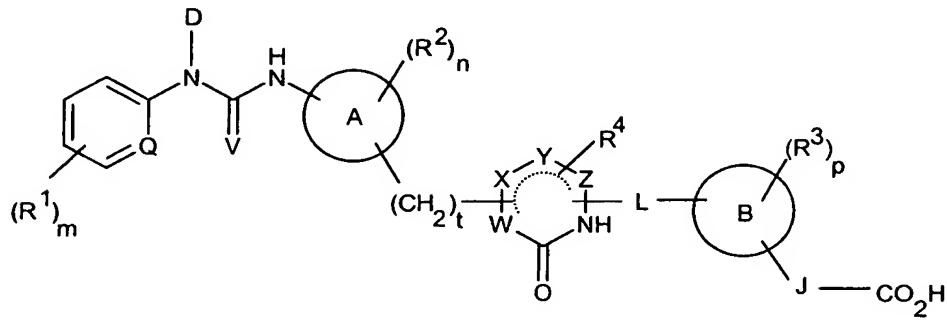


## CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable derivative thereof:



5

wherein

A and B are independently aryl or heteroaryl;

Q is C, CH or together with the group V or group D forms a 5 - 7 membered heterocyclic ring;

10 D is hydrogen, C<sub>1</sub>-6alkyl or together with the group Q forms a 5 - 7 membered heterocyclic ring;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently C<sub>1</sub>-6alkyl, halogen, C<sub>1</sub>-6alkoxy, hydroxy, cyano, CF<sub>3</sub>, nitro, C<sub>1</sub>-6alkylthio, amino, mono- or di-C<sub>1</sub>-6alkylamino, carboxy, C<sub>1</sub>-6alkanoyl, amido, mono- or di-C<sub>1</sub>-6alkylamido, NHCOR<sup>9</sup> or NHSO<sub>2</sub>R<sup>9</sup> in which R<sup>9</sup> is C<sub>1</sub>-6alkyl, C<sub>3</sub>-

15 7cycloalkyl or phenyl (optionally substituted by up to three groups selected from C<sub>1</sub>-6alkyl, halogen, C<sub>1</sub>-6alkoxy, cyano, phenyl or CF<sub>3</sub>) or is a group -E-(CH<sub>2</sub>)<sub>1-6</sub>NR<sup>X</sup>RY in which E is a single bond or -OCH<sub>2</sub>- and R<sup>X</sup> and R<sup>Y</sup> are independently hydrogen, C<sub>1</sub>-6alkyl or combine together to form a 5 - 7 membered heterocyclic ring;

R<sup>4</sup> is hydrogen, C<sub>1</sub>-6alkyl, halogen or C<sub>1</sub>-6alkoxy;

20 V is O, S, NH, N-C<sub>1</sub>-6alkyl, NNO<sub>2</sub>, NCN or together with the group Q forms a 5 - 7 membered heterocyclic ring;

W, X, Y and Z are independently C, CH or CH<sub>2</sub>;

----- represents a single or double bond;

L is -(CH<sub>2</sub>)<sub>q</sub>- or -(CH<sub>2</sub>)<sub>q</sub>O- where q is 0, 1, 2 or 3 and q' is 2 or 3;

25 J is (i) a group - CR<sup>5</sup> = CR<sup>6</sup> - where R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1</sub>-6alkyl; or

(ii) a group -CHR<sup>7</sup>-CHR<sup>8</sup>- where R<sup>7</sup> and R<sup>8</sup> are independently hydrogen,

$C_{1-6}$ alkyl,  $C_{3-7}$ cycloalkyl, aryl, heteroaryl, a group  $-NHCOR^9-$  or  $-NHSO_2R^9-$  in which  $R^9$  is as defined above or a group  $-(CH_2)_{1-6}NR^XRY-$  in which  $R^X$  and  $R^Y$  are as defined above; or

- (iii) a single bond; or
- 5 (iv)  $-CHR^6-$  where  $R^6$  is as defined above; or
- (v) a group  $-O-CHR^{10}-$ ,  $-NR^{11}-CHR^{10}-$  or  $-CR^{12}R^{13}-CHR^{10}-$  where  $R^{10}$  and  $R^{11}$  are independently hydrogen or  $C_{1-6}$ alkyl and  $R^{12}$  and  $R^{13}$  are independently  $C_{1-6}$ alkyl or  $R^{12}$  and  $R^{13}$  combine together to form a  $C_{3-7}$ cycloalkyl or a 5 - 7 membered heterocyclic ring;

10 m, n and p are independently 0, 1, 2 or 3; and  
t is 0, 1 or 2.

2. A compound according to claim 1, wherein A is phenyl or pyridyl.

15 3. A compound according to claim 1 or 2, wherein B is phenyl.

4. A compound according to any of the preceding claims, wherein

20  $R^1$ ,  $R^2$  and  $R^3$  are independently  $C_{1-6}$ alkyl, halogen,  $C_{1-6}$ alkoxy, hydroxy, cyano,  $CF_3$ , nitro,  $C_{1-6}$ alkylthio, amino, mono- or di- $C_{1-6}$ alkylamino, carboxy,  $C_{1-6}$ alkanoyl, amido, mono- or di- $C_{1-6}$ alkylamido,  $NHCOR^9$  or  $NHSO_2R^9$  in which  $R^9$  is  $C_{1-6}$ alkyl,  $C_{3-7}$ cycloalkyl or phenyl (optionally substituted by up to three groups selected from  $C_{1-6}$ alkyl, halogen,  $C_{1-6}$ alkoxy, cyano, phenyl or  $CF_3$ ) or is a group  $-E-(CH_2)_{1-6}NR^XRY$  in which E is a single bond or  $-OCH_2-$  and  $R^X$  and  $R^Y$  are independently hydrogen,  $C_{1-6}$ alkyl or 25 combine together to form a ring including piperidinyl, piperazinyl, pyrrolidinyl or morpholinyl group in which ring is optionally substituted by  $C_{1-6}$ alkyl;

When Q and V combine together to form a ring including piperidinyl, piperazinyl, pyrrolidinyl or morpholinyl group, which is optionally substituted by  $C_{1-6}$ alkyl;

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When Q and D combine together to form a ring including piperidinyl, piperazinyl, pyrrolidinyl or morpholinyl group, which is optionally substituted by  $C_{1-6}$ alkyl;

J is (i) a group - CR<sup>5</sup> = CR<sup>6</sup>- where R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1-6</sub>alkyl; or

5 (ii) a group -CHR<sup>7</sup>-CHR<sup>8</sup>- where R<sup>7</sup> and R<sup>8</sup> are independently hydrogen, C<sub>1-6</sub>alkyl, C<sub>3-7</sub>cycloalkyl, phenyl, naphthyl, thienyl, furyl, pyrrolyl, triazolyl, imidazolyl, oxazolyl, thiazolyl, oxadiazolyl, isothiazolyl, isoxazolyl, thiadiazolyl, pyrazolyl, pyrimidyl, pyridazinyl, pyrazinyl, pyridyl quinolinyl, isoquinolinyl, indolyl, benzofuryl, benzothienyl, benzimidazolyl, benzoxazolyl, a group -NHCOR<sup>9</sup>- or -NHSO<sub>2</sub>R<sup>9</sup>- in which R<sup>9</sup> is as defined above or a group -(CH<sub>2</sub>)<sub>1-6</sub>NR<sup>X</sup>RY- in which NR<sup>X</sup> and RY are as defined above; or

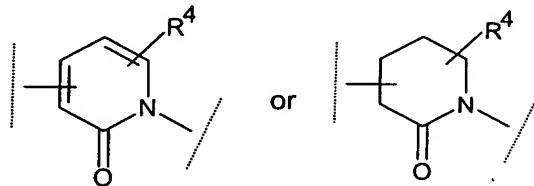
10 (iii) a single bond; or

(iv) -CHR<sup>6</sup>- where R<sup>6</sup> is as defined above; or

(v) a group -O-CHR<sup>10</sup>-, -NR<sup>11</sup>-CHR<sup>10</sup>- or -CR<sup>12</sup>R<sup>13</sup>CHR<sup>10</sup>- where R<sup>10</sup> and R<sup>11</sup> are independently hydrogen or C<sub>1-6</sub>alkyl and R<sup>12</sup> and R<sup>13</sup> are independently C<sub>1-6</sub>alkyl or R<sup>12</sup> and R<sup>13</sup> combine together to form C<sub>3-7</sub> cycloalkyl,

15 tetrahydropyranyl, piperidinyl, piperazinyl, pyrrolidinyl or morpholinyl;

the ring containing W, X, Y and Z is



5. A compound according to any of the preceding claims, wherein

20 R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently C<sub>1-6</sub>alkyl, halogen or C<sub>1-6</sub>alkoxy;

Q is C, CH or together with the group V or group D form part of a benzimidazole, benzoxazole or indoline ring;

D is hydrogen, C<sub>1-6</sub>alkyl or together with the group Q form part of a benzimidazole or benzoxazole ring;

V is O or together with the group Q form part of an indoline ring;

R<sup>4</sup> is hydrogen or halogen;

J is (i) a group - CR<sup>5</sup> = CR<sup>6</sup>- where R<sup>5</sup> and R<sup>6</sup> are independently hydrogen or C<sub>1-6</sub>alkyl; or

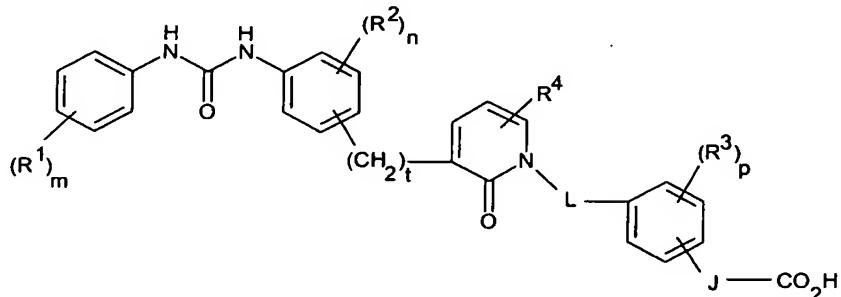
(ii) a group  $-\text{CHR}^7\text{-CHR}^8-$  where  $\text{R}^7$  and  $\text{R}^8$  are independently hydrogen,  $\text{C}_1\text{-6alkyl}$ ,  $\text{C}_3\text{-7cycloalkyl}$ , phenyl, a group  $-\text{NHCOR}^9-$  in which  $\text{R}^9$  is  $\text{C}_1\text{-6alkyl}$ ; or

(iii) a single bond;

(iv)  $-\text{CHR}^6-$  where  $\text{R}^6$  is as defined above; or

5 (v) a group  $-\text{O-CHR}^{10}-$ ,  $-\text{NR}^{11}\text{-CHR}^{10}-$  or  $-\text{CR}^{12}\text{R}^{13}\text{CHR}^{10}-$  where  $\text{R}^{10}$  and  $\text{R}^{11}$  are independently hydrogen or  $\text{C}_1\text{-6alkyl}$  and  $\text{R}^{12}$  and  $\text{R}^{13}$  are independently  $\text{C}_1\text{-6alkyl}$  or  $\text{R}^{12}$  and  $\text{R}^{13}$  combine together to form  $\text{C}_3\text{-7 cycloalkyl}$  group.

6. A compound according to claim 1, wherein the compound is of formula (Ia) or a  
10 pharmaceutically acceptable derivative thereof:



(Ia)

wherein:

15  $\text{R}^1, \text{R}^2, \text{R}^3, \text{R}^4, \text{L}, \text{J}, \text{m}, \text{n}, \text{p}$  and  $\text{t}$  are as defined in formula (I).

7. A compound according to any one of the preceding claims wherein:

$\text{R}^1, \text{R}^2$  and  $\text{R}^3$  are independently  $\text{C}_1\text{-6alkyl}$ , halogen,  $\text{C}_1\text{-6alkoxy}$ , hydroxy, cyano,  $\text{CF}_3$ , nitro,  $\text{C}_1\text{-6alkylthio}$ , amino, mono- or di- $\text{C}_1\text{-6alkylamino}$ , carboxy,  $\text{C}_1\text{-6alkanoyl}$ , amido, mono- or di- $\text{C}_1\text{-6alkylamido}$ ,  $\text{NHCOR}^9$  or  $\text{NHSO}_2\text{R}^9$  in which  $\text{R}^9$  is  $\text{C}_1\text{-6alkyl}$ ,  $\text{C}_3\text{-7cycloalkyl}$  or phenyl optionally substituted by up to three groups selected from  $\text{C}_1\text{-6alkyl}$ ,

20 halogen,  $\text{C}_1\text{-6alkoxy}$ , cyano, phenyl or  $\text{CF}_3$ ;

$\text{L}$  is  $-(\text{CH}_2)_q-$  where  $q$  is 0, 1, 2 or 3; and

$\text{J}$  is (i) a group  $-\text{CR}^5 = \text{CR}^6-$  where  $\text{R}^5$  and  $\text{R}^6$  are independently hydrogen or  $\text{C}_1\text{-6alkyl}$ ; or

25 (ii) a group  $-\text{CHR}^7\text{-CHR}^8-$  where  $\text{R}^7$  and  $\text{R}^8$  are independently hydrogen,  $\text{C}_1\text{-6alkyl}$  or a group  $-\text{NHCOR}^9-$  or  $-\text{NHSO}_2\text{R}^9-$  in which  $\text{R}^9$  is as defined in claim 1.

8. A compound according to any of the preceding claims wherein J is a group -CH = CH-, -(CH<sub>2</sub>)<sub>2</sub>-, -CHR<sup>7</sup>-CH<sub>2</sub>- in which R<sup>7</sup> is C<sub>1-6</sub>alkyl.

9. A compound according to claim 1 which is selected from the group consisting of  
5 E1 - E 51 or a pharmaceutically acceptable derivative thereof.

10. A compound according to claim 1 which is selected from the group consisting of  
E5, E9, E32, E41, E42 and E51 or a pharmaceutically acceptable derivative thereof.

10 11. A process for the preparation of a compound of formula (I) which comprises hydrolysis of a carboxylic acid ester derivative of formula (II):

(II)

in which R<sup>1</sup> - R<sup>4</sup>, m, n, p, t, A, B, D, L, J, Q, V, W, X, Y and Z are as defined in formula (I)  
15 and R is a group capable of forming a carboxylic acid ester and optionally thereafter forming a pharmaceutically acceptable derivative thereof.

12. A compound according to any one of claims 1 to 10 for use in therapy.

20 13. A pharmaceutical composition which comprises a therapeutically effective amount of a compound according to any one of claims 1 to 10 or a pharmaceutically acceptable salt thereof in admixture with a pharmaceutically acceptable carrier or diluent.

25 14. A pharmaceutical composition comprising a compound according to any one of claims 1 - 10 or a pharmaceutically acceptable derivative thereof together with another therapeutically active agent.

15. The use of a compound according to any one of claims 1 to 10 in the manufacture of a medicament for use in the treatment or prophylaxis of conditions in which an inhibitor of  $\alpha_4$  mediated cell adhesion is beneficial.

5 16. A method for the treatment or prophylaxis of conditions in which an inhibitor of  $\alpha_4$  mediated cell adhesion is beneficial which comprises administering to a patient in need thereof a safe and effective amount of a compound according to any one of claims 1 to 10.

10 17. The method according to claim 16, wherein said condition is selected from the group consisting of rheumatoid arthritis; asthma; allergic conditions; adult respiratory distress syndrome; AIDS-dementia; Alzheimer's disease; cardiovascular diseases; thrombosis or harmful platelet aggregation; reocclusion following thrombolysis; reperfusion injury; skin inflammatory diseases; diabetes; multiple sclerosis; systemic lupus erythematosus; inflammatory bowel disease; diseases associated with leukocyte infiltration to the gastrointestinal tract; diseases associated with leukocyte infiltration to epithelial lined tissues; pancreatitis; mastitis; hepatitis; cholecystitis; cholangitis or pericholangitis; bronchitis; sinusitis; inflammatory diseases of the lung; collagen disease; sarcoidosis; osteoporosis; osteoarthritis; atherosclerosis; neoplastic diseases; wound; eye diseases; Sjogren's syndrome; rejection after organ transplantation; host vs. graft or graft vs. host diseases; intimal hyperplasia; arteriosclerosis; reinfarction or restenosis after surgery; nephritis; tumor angiogenesis; malignant tumor; multiple myeloma and myeloma-induced bone resorption; sepsis, central nervous system injury and Meniere's disease.

20 18. The method according to claim 16, wherein said condition is asthma, allergic conditions, inflammatory bowel disease, rheumatoid arthritis, atopic dermatitis, multiple sclerosis or rejection after organ transplantation.